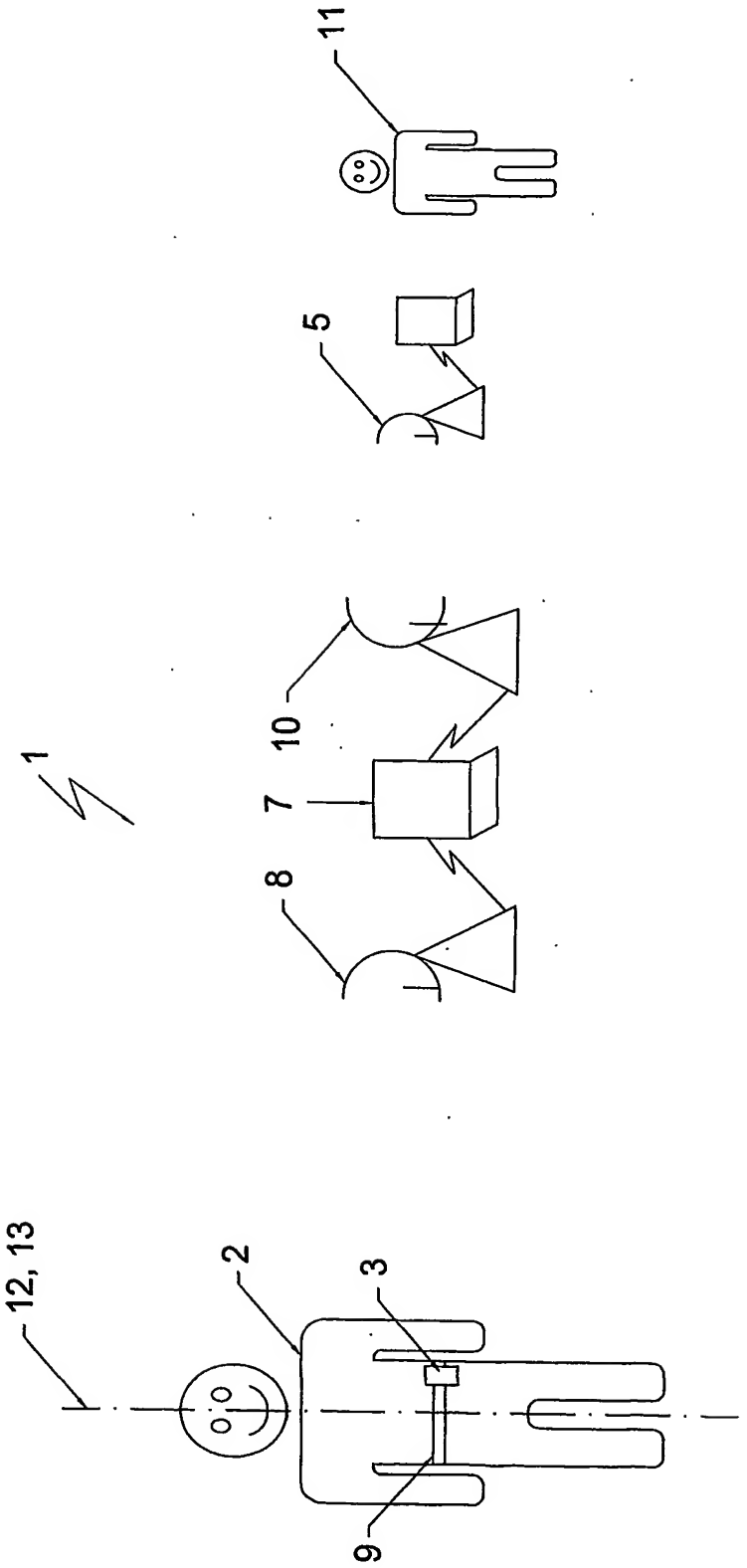

FIGURE 1

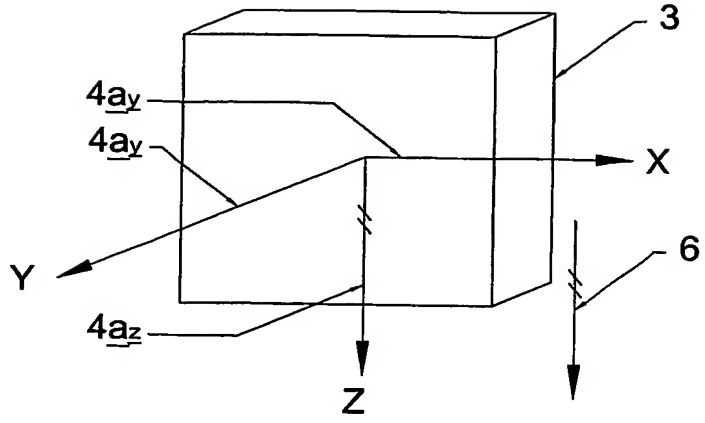

FIGURE 2

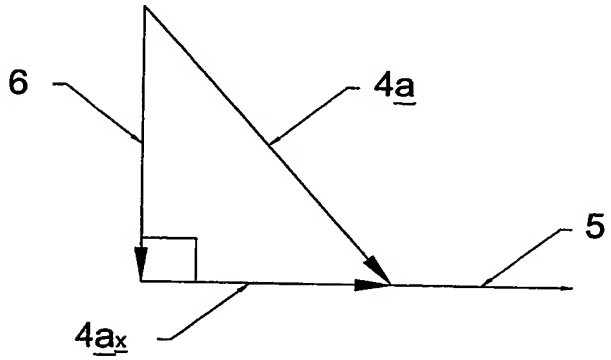

FIGURE 3

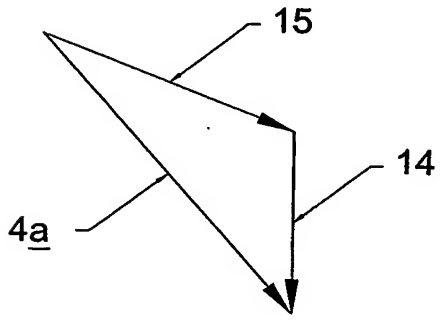

FIGURE 4

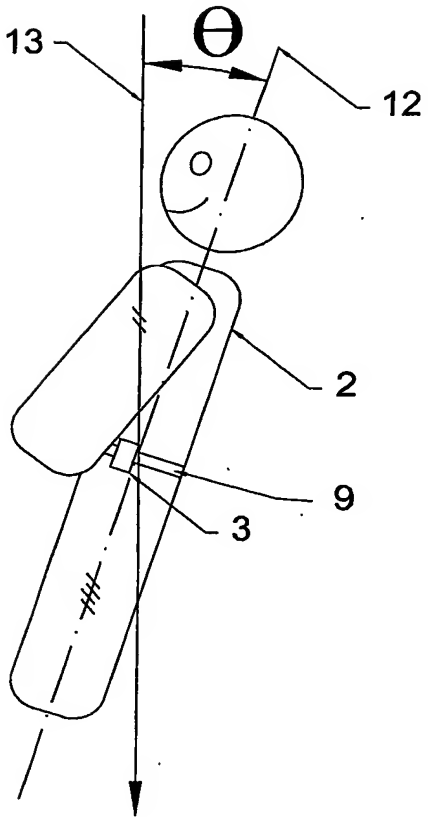

FIGURE 5

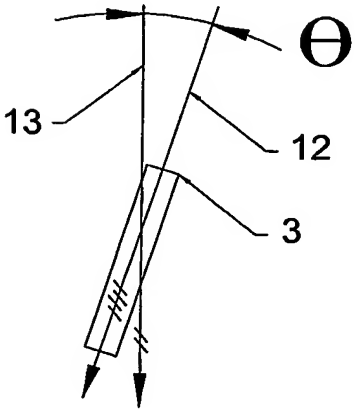

FIGURE 6

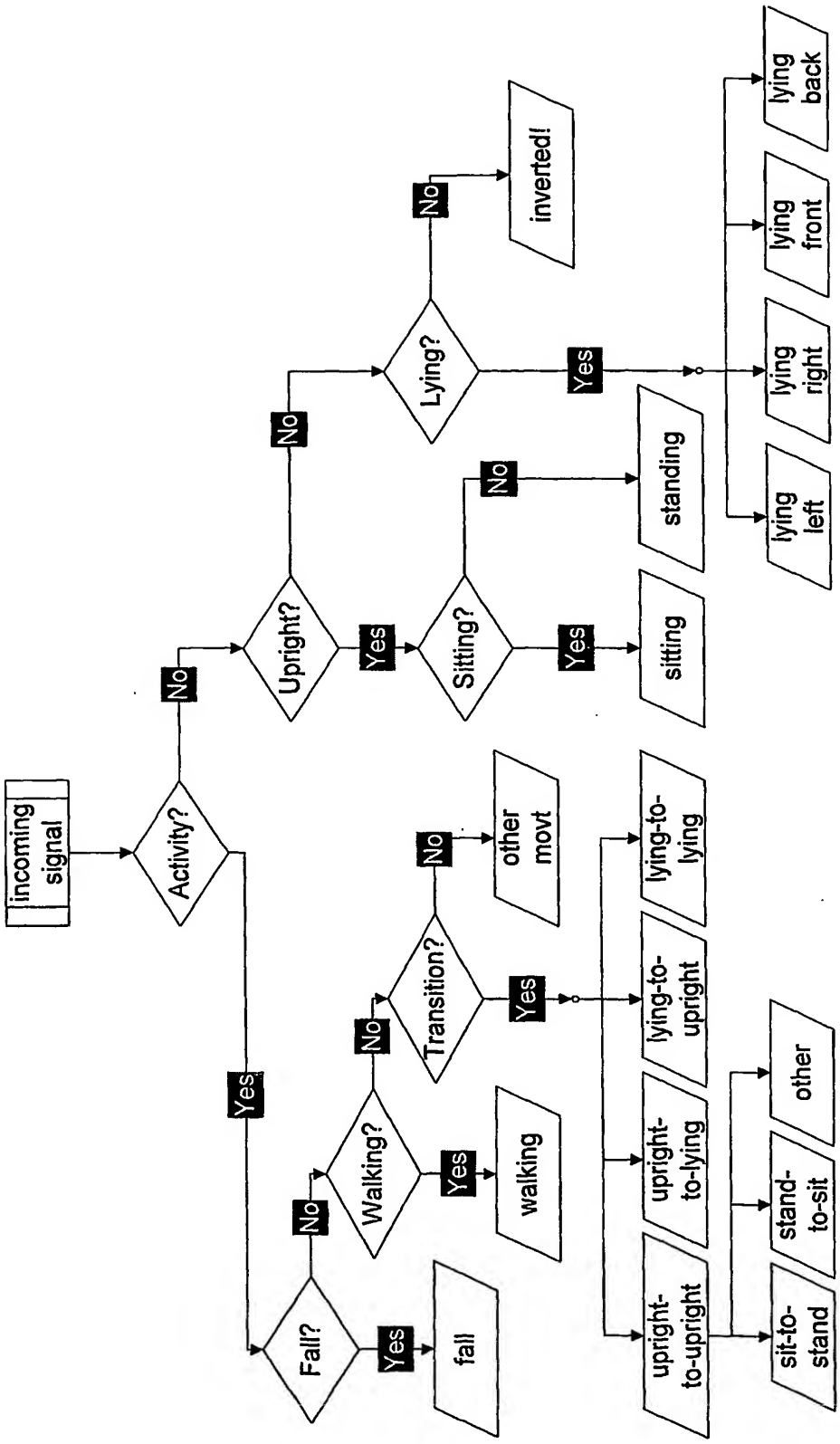
incoming signal
Activity?
No
Yes
Fall?
No
Yes
fall
Walking?
No
Yes
walking
Transition?
No
other movt
Yes
upright-to-upright
upright-to-lying
lying-to-upright
lying-to-lying
Upright?
No
Yes
Sitting?
No
Yes
standing
sitting
Lying?
No
inverted!
Yes
lying left
lying right
lying front
lying back
sit-to-stand
stand-to-sit
other

FIGURE 7

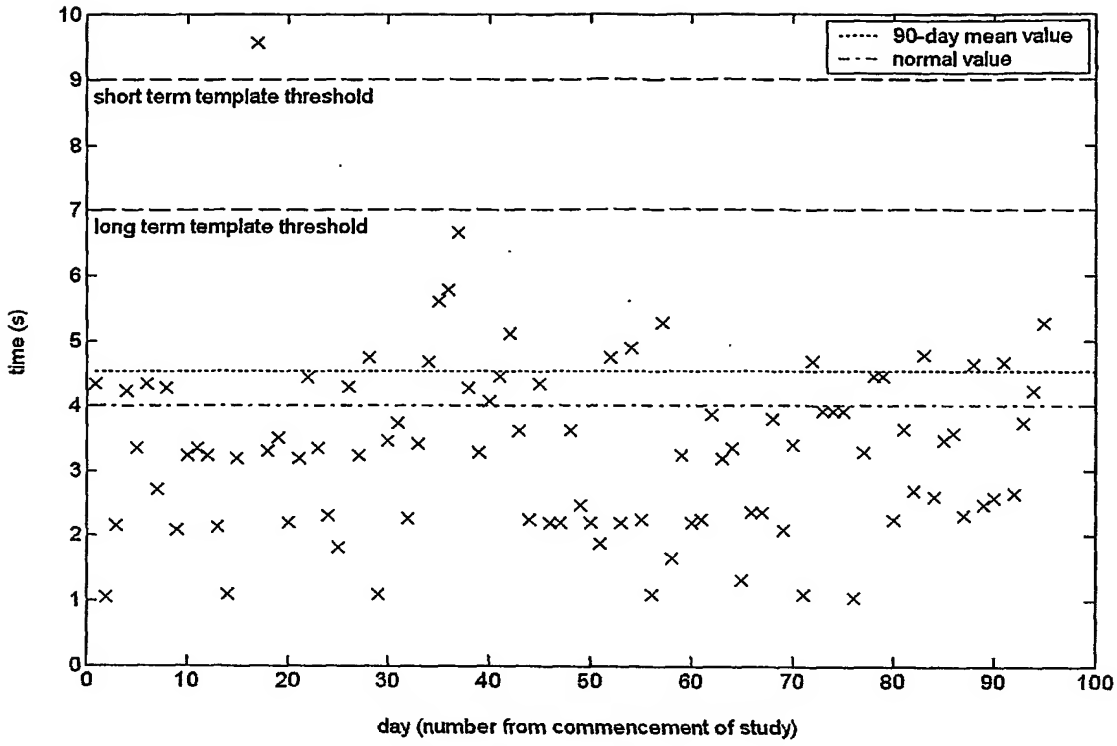
90-day mean value
normal value
short term template threshold
long term template threshold
time (s)
day (number from commencement of study)
0
1
2
3
4
5
6
7
8
9
10
0
10
20
30
40
50
60
70
80
90
100

FIGURE 8

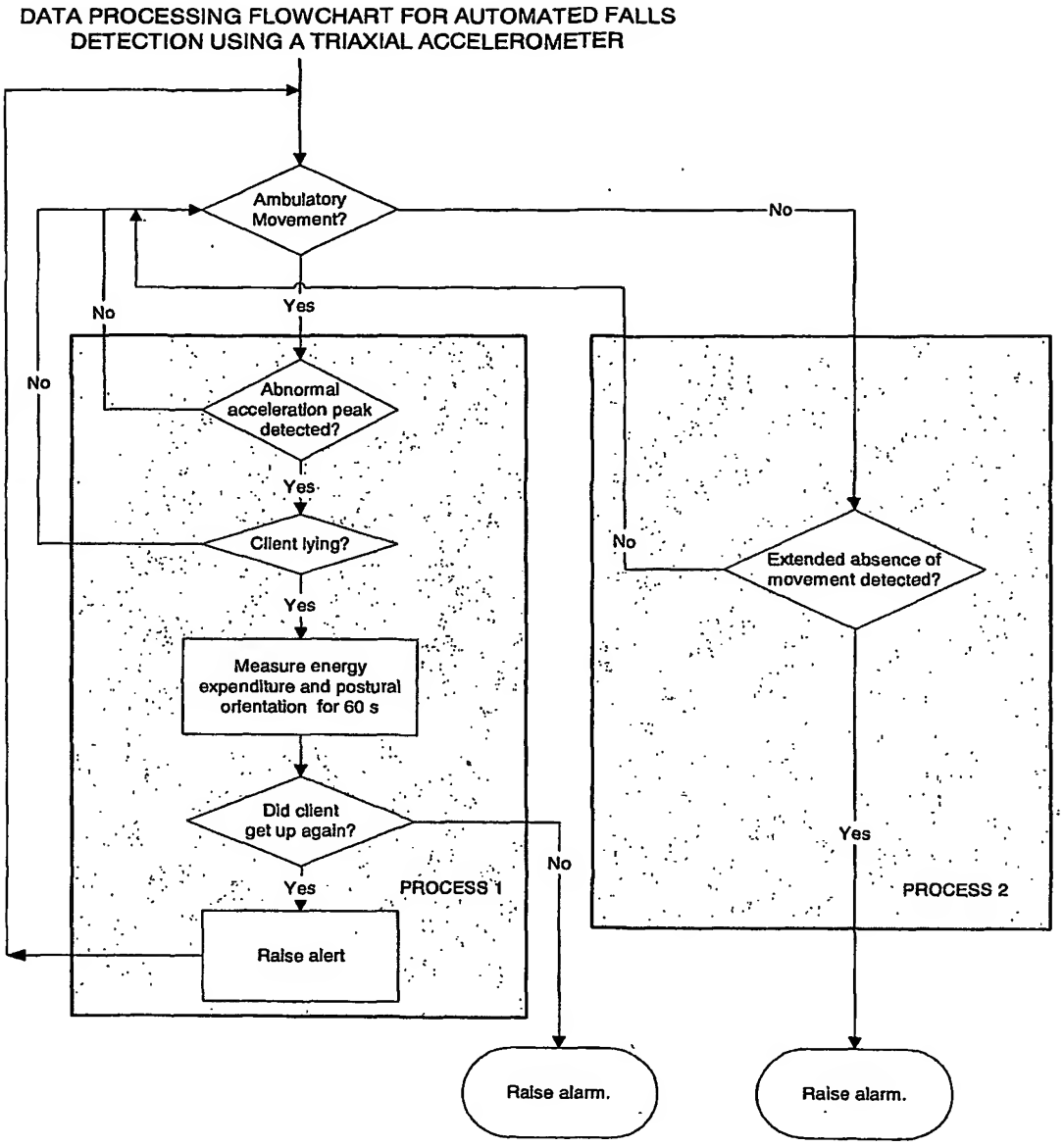
DATA PROCESSING FLOWCHART FOR AUTOMATED FALLS DETECTION USING A TRIAXIAL ACCELEROMETER
Ambulatory Movement?
No
Yes
No
Abnormal acceleration peak detected?
No
Yes
Client lying?
Yes
Measure energy expenditure and postural orientation for 60 s
Did client get up again?
No
Yes
PROCESS 1
Raise alert
Raise alarm.
No
Extended absence of movement detected?
Yes
PROCESS 2
Raise alarm.

FIGURE 9